MITSUBISHI ELECTRIC

GOT2000 Series Multimedia Unit

User's Manual

GT27-MMR-Z

Set of GT16M-MMR-Z and GT27-IF2000

Thank you for purchasing the GOT2000 Series.

Prior to use, please read both this manual and detailed manual thoroughly to fully understand the product.

MODEL	GT27-MMR-Z-U-JE
MODEL CODE	1D7ML3
IB(NA)-0800518-A(1309)MEE	

GRAPHIC OPERATION TERMINAL GOT2000

●SAFETY PRECAUTIONS●

(Always read these precautions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.
The precautions given in this manual are concerned with this product.
In this manual, the safety precautions are ranked as "WARNING" and "CAUTION".

⚠WARNING Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.

⚠CAUTION Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage.

Note that the ⚠ CAUTION level may lead to a serious accident according to the circumstances.
Always follow the precautions of both levels because they are important to personal safety.
Please save this manual to make it accessible when required and always forward it to the end user.

[DESIGN PRECAUTIONS]

⚠ CAUTION

- Do not bunch the control wires or communication cables with the main circuit or power wires, or lay them close to each other.
  As a guide, separate the lines by a distance of at least 100mm (3.94 inches) otherwise malfunctions may occur due to noise.

[INSTALLATION PRECAUTIONS]

⚠WARNING

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing this unit to/from the GOT. Not doing so can cause a unit failure or malfunction.
- Before connecting the Bus connection cable to this unit, always shut off GOT power and PLC CPU power externally in all phases.Not doing so can cause a malfunction.

⚠ CAUTION

- Use this unit in the environment that satisfies the general specifications described in the User's Manual for the GOT used.
  Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- Do not drop the unit or subject it to string shock.
  A unit damage may result.
- When installing this unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range.
  Undertightening can cause a drop, failure or malfunction. Overtightening can cause a drop, failure or malfunction due to screw or unit damage.

[WIRING PRECAUTIONS]

⚠WARNING

- Be sure to shut off all phases of the external power supply used by the system before wiring.
  Failure to do so may result in an electric shock, product damage or malfunctions.

⚠ CAUTION

- Exercise care to avoid foreign matter such as chips and wire offcuts entering the unit.
  Not doing so can cause a fire, failure or malfunction.
- Make sure to securely connect the cable to the connector of unit.
  Incorrect connection may cause malfunctions.

[STARTUP AND MAINTENANCE PRECAUTIONS]

⚠WARNING

- Before starting cleaning, always shut off GOT power externally in all phases.
  Not doing so can cause a unit failure or malfunction. Undertightening can cause the GOT to drop, short circuit or malfunction.
  Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.
- Do not disassemble or modify the unit and the CF card.
  Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive areas and electronic parts of this unit directly.
  Doing so can cause a unit malfunction or failure.

⚠ CAUTION

- Always secure the cables connected to the unit, e.g. run them in conduits or clamp them. Not doing so can cause unit or cable damage due to dangling, moved or accidentally pulled cables or can cause a malfunction due to a cable contact fault.
- Do not hold the cable part when unplugging any cable connected to the unit.
  Doing so can cause unit or cable damage or a malfunction due to a cable contact fault.
- Always make sure to touch the grounded metal to discharge the electricity charged in the body, etc., before touching the unit. Failure to do so may cause a failure or malfunctions of the unit.
- When installing a CF card into this unit, insert it into the card slot of this unit until the CF card eject button pops out.
  Failure to do so may cause a malfunction due to poor contact.
- Before inserting or removing a CF card into/from this unit, turn the CF card access switch off.
  Failure to do so may corrupt data on the CF card.
- When removing a CF card from the GOT, support it by hand, as it may pop out. Failure to do so may cause the CF card to drop from the unit, resulting in a damage or failure.

[DISPOSAL PRECAUTIONS]

⚠ CAUTION

- Dispose of this product as industrial waste.

[TRANSPORTATION PRECAUTIONS]

⚠ CAUTION

- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of the User's Manual for the GOT used, as they are precision devices.
  Failure to do so may cause the unit to fail.
  Check if the unit operates correctly after transportation.
- When fumigants that contain halogen materials such as fluorine, chlorine, bromine, and iodine are used for disinfecting and protecting wooden packaging from insects, they cause malfunction when entering our products. Please take necessary precautions to ensure that remaining materials from fumigant do not enter our products, or treat packaging with methods other than fumigation (heat method).
  Additionally, disinfect and protect wood from insects before packing products.

Manuals

The following shows manuals relevant to this product.

Detailed Manual

Manual name	Manual number (Model code)
GOT2000 Series User's Manual (Hardware) (Sold separately)	SH-081194ENG (1D7MJ5)
GOT2000 Series Connection Manual (Microcomputer, MODBUS, Products, Peripherals) For GT Works3 Version1 (Sold separately)	SH-081200ENG (1D7MK2)

For detailed manuals, refer to the PDF manuals stored in the DVD-ROM or CD-ROM for the drawing software used.

Relevant Manuals

For relevant manuals, refer to the Help or the :PDF manuals stored in the DVD-ROM or CD-ROM for the drawing software used.

The latest manuals are also available from MITSUBISHI ELECTRIC FA Global Website (http://www.MitsubishiElectric.co.jp/fa/).

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Compliance with the EMC and Low Voltage Directives

To configure a system meeting the requirements of the EMC and Low Voltage Directives when incorporating the Mitsubishi GOT (EMC and Low Voltage Directives compliant) into other machinery or equipment, refer to "EMC AND LOW VOLTAGE DIRECTIVES" of the General Description included with the GOT used. The CE mark, indicating compliance with the EMC and Low Voltage Directives, is printed on the rating plate of the GOT.

Packing List

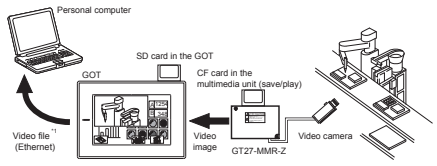
After unpacking the box, check that the following products are included.

Model	Product	Quantity
GT27-MMR-Z	GT16 Multimedia unit GT16M-MMR-Z	1
	Video Interface Converter Unit GT27-IF1000	1
	Mounting screw set for GT 16 Multimedia unit (4 screws (40mm), 4 stickers) Multimedia unit	1
	Mounting screw set for Video Interface Converter Unit (2 screws (26mm), 2 stickers)	2
	Cable clamp (for sound I/O)	1

1. OVERVIEW

This user's manual describes the GT27 Multimedia unit (hereinafter referred to as the Multimedia unit).
The Multimedia unit is configured with the GT 16 Multimedia unit and the Video Interface Converter Unit.
The following functions are available by mounting the Multimedia unit on the GT27.

- The GOT displays a video image taken by a video camera, or the GOT stores the video image as a video file in a CF card and plays the file.
- When an error occurs, a video image taken 120 seconds before and after the error (up to 240 seconds) can be stored as a video file in a CF card.
- With the Ethernet connection, the GOT sends a video file to the personal computer using the FTP server function.



*1: To store video files in the personal computer, the FTP server function of the GOT and the multimedia interaction tool are required.
*2: Power on the GOT simultaneously with the video camera.
*3: Depending on the video camera type, noise from the power supply cable of the video camera may cause malfunction of the GOT or a programmable controller. In this case, attach the following line filter to the power supply line of the video camera.
Recommended line filter: TDK-Lambda RSHN-2003 (or equivalent products)

To use the Multimedia unit, set the controller settings.
For the settings and system configurations, refer to GOT2000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 Version 1.
For the details of the multimedia function, refer to GT Designer3 (GOT2000) Help.

2. SPECIFICATIONS

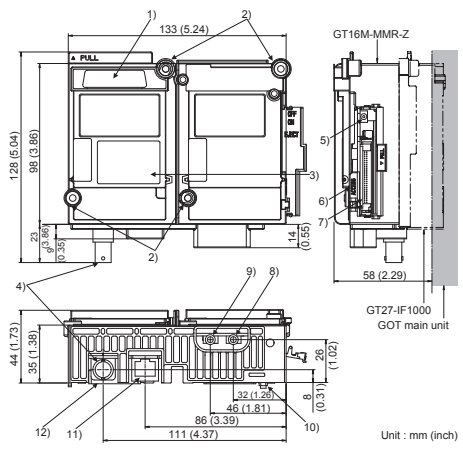
The following shows the performance specifications of the Multimedia unit.
The general specifications of the Multimedia unit are the same as those of the GOT.
For the general specifications of the GOT, refer to the GOT2000 Series User's Manual (Hardware).

Item			Specifications
Video input section	Input format	Color	NTSC format, PAL format (interlaced format)
		Monochrome	EIA format, CCIR format (interlaced format)
	Number of channels		1 channel
	Video input signal		IVp-p, 75 Ω, composite signal
	Display size (dot)		640x480 768x576*1
	Connector for external connection		BNC connector
	Applicable wire size		75 Ω shielded coaxial cable al shield cable
Sound input section	Number of channels		1 channel
	Sound input signal		1 Vrms
	Connector for external connection		φ3.5 stereo mini jack, straight type
Sound output section	Number of channels		1 channel
	Sound output signal		1 Vrms (Rated load 10k Ω)
	Connector for external connection		φ3.5 stereo mini jack, straight type
CF Card I/F section	Slot		Compact flash Slot (TYPE1) 1 channel
	Mode		True-IDE mode
Ethernet I/F section	Number of channels		1 channel
	Connector for external connection		RJ-45 jack
	Data transfer method		10BASE-T/100BASE-TX
Video file	File format		3GP, MP4
	Video coding/decoding format		MPEG-4 Part.2 SP@LV4
	Resolution/maximum frame rate		VGA/15fps, QVGA/30fps
Internal current consumption		3.3VDC	0.51A
		5.0VDC	0.49A accompanied with the GT27-IF1000
Weight			0.41kg accompanied with the GT27-IF1000

*1:Compatible with PAL and CCIR formats only.

3. PART NAMES AND EXTERNAL DIMENSIONS

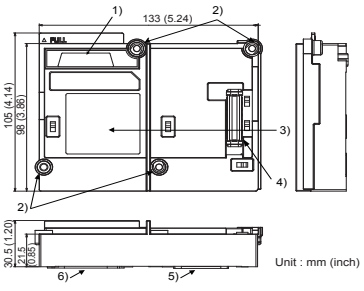
3.1 GT16 Multimedia Unit



Unit : mm (inch)

No.	Name	Description
1)	Extension connector	Connector for connecting an extension unit
2)	Mounting screw	Screw for fixing the Video Interface Converter Unit
3)	Rating plate	-
4)	Connector for video input	Connector for connecting a coaxial cable
5)	CF card access switch	Switch for enabling or disabling access to the CF card ON: CF card accessed OFF: CF card not accessed
6)	CF card access LED	LED lamp lit when the CF card is accessed
7)	CF card interface	Interface for inserting a CF card
8)	Sound input terminal	Terminal for connecting the cable of the sound input device
9)	Sound output terminal	Terminal for connecting the cable of the sound output device
10)	Video connector	Video connector connected to the Video Interface Converter Unit
11)	Ethernet interface	Connector for Ethernet communication
12)	Interface connector	Connector connected to the Video Interface Converter Unit

3.2 Video Interface Converter Unit



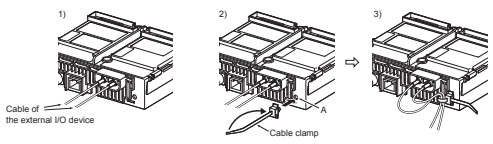
Unit : mm (inch)

No.	Name	Description
1)	Extension connector	Connector for connecting the GT16 Multimedia Unitt
2)	Mounting screw	Screw for fixing the RGB output unit
3)	Rating plate	-
4)	Video connector	Video connector for connecting the GT16 Multimedia Unit
5)	Auxiliary extension connector	Auxiliary extension connector connected to the GOT
6)	Interface connector	Connector connected to the GOT

4. INSTALLATION AND REMOVAL PROCEDURE

4.1 Cable Connection

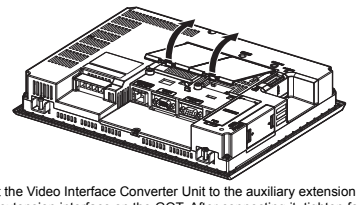
1) Connect the cables of the sound I/O devices to the GT16 Multimedia unit.
2) Attach the cable clamp to the GT16 Multimedia unit.
   Position the cable clamp band outside, and insert the cable clamp to section A shown in the following figure until it clicks. For the band inserting direction, refer to the arrow.
   (The cable clamp is the RST-1NB manufactured by TAKEUCHI INDUSTRY CO., LTD.)
3) Pull up the two hooks in the extension unit cover (two covers) of the GOT to remove the cover toward the opposite side of the cover as a fulcrum.



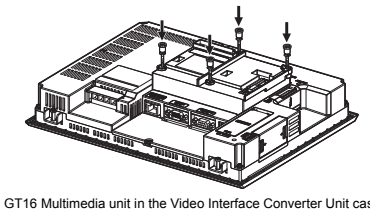
4.2 Unit Installation

The installation procedure for the Multimedia unit is explained using the GT2712.

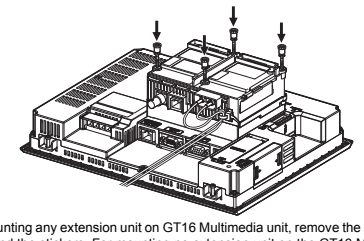
1) Turn off the GOT.
2) Pull up the two hooks in the extension unit cover (two covers) of the GOT to remove the cover toward the opposite side of the hoots of the cover as a fulcrum.



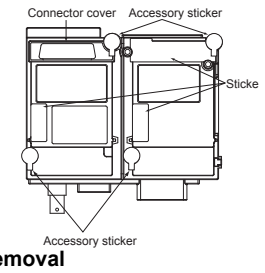
3) Connect the Video Interface Converter Unit to the auxiliary extension interface and the extension interface on the GOT. After connecting it, tighten four mounting screws (26mm) with a torque of 0.36N•m to 0.48N•m to fix the unit.



4) Fit the GT16 Multimedia unit in the Video Interface Converter Unit case.
5) Tighten four mounting screws (40mm) of GT16 Multimedia unit with a torque of 0.36N•m to 0.48N•m to fix the unit.



6) For mounting any extension unit on GT16 Multimedia unit, remove the connector cover and the stickers. For mounting no extension unit on the GT16 Multimedia unit, cover over four mounting screws with the accessory stickers to the GT16 Multimedia unit or the Video Interface Converter Unit to avoid static electricity.
   Keep the connector cover fixed.
   Keep all the stickers fixed.



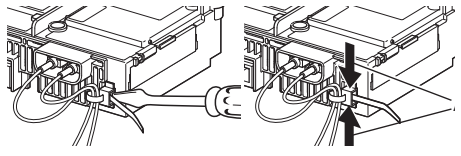
4.3 Unit Removal

For removing the Multimedia unit, reverse the procedure of the installation.

Point

Precautions for connecting sound I/O devices
- Do not connect or disconnect the cables of the sound I/O sections during sound input or output.
- Do not connect devices other than sound I/O devices to the sound I/O sections of the GT16 Multimedia unit.

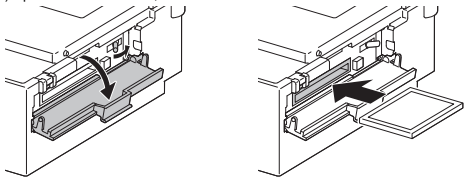
Cable clamp
(1) Removing cable clamp band
The cable clamp band can be removed after the cables are fixed.
Press the tab of the cable clamp upward using a screwdriver and others, and pull out the band.
(2) Removing cables from the GT16 Multimedia unit
The cables of the sound I/O devices can be removed from the unit even if the cables are fixed with the cable clamp.
Remove the cables by pressing the cable clamp from both directions (arrow A).



5. CF CARD INSTALLATION/REMOVAL PROCEDURE

5.1 Installation

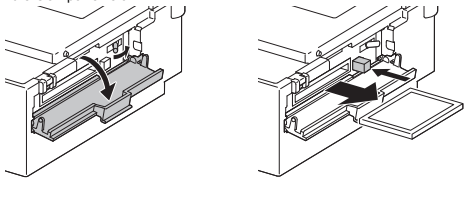
1) Open the CF card cover, and turn off the CF card access switch of the unit.



2) Insert a CF card into the CF card interface with the front side facing up.
3) Turn on the CF card access switch.

5.2 Removal

1) Open the CF card cover.
   Turn off the CF card access switch, and check that the CF card access LED turns off.
   (When the CF card access LED is off, the CF card can be removed even while the GOT power is on.



2) Press the CF card eject button to pop out the CF card, and remove the card.

Warranty

Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products; and to other duties.

⚠For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.

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Specifications subject to change without notice.
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